

Claims:

1. An absorbent material comprising a mat of dry-laid cellulose fibres integrated with an air-laid non-woven gauze comprised of reinforcing textile fibres obtained by directly dry-laying the cellulose fibres on the newly formed gauze of textile fibres so that the cellulose fibres achieve a sufficient bonding with the textile fibres without any bonding agent.
2. An absorbent material according to claim 1, wherein the reinforcing textile fibres have a length of 10-100 mm.
3. An absorbent material according to claim 1, wherein the reinforcing textile fibres have a length of 32- 60mm.
4. An absorbent material according to claim 1, which includes up to 10% by weight reinforcing fibres, calculated on a total weight of the absorbent material.
5. An absorbent material according to claim 4, which contains 2-8% reinforcing fibres.
6. An absorbent material according to claim 4, which contains 3-6% reinforcing fibres.
7. An absorbent material according to claim 1, wherein the reinforcing fibres are natural fibres or synthetic fibres.

PCT/GB2014/053650

8. An absorbent material according to claim 7, wherein the reinforcing fibres are cotton fibres, rayon fibres or polyester fibres.
9. An absorbent material according to claim 1, wherein the weight ratio between the cellulose fibre layer and the textile fibre layer is from 20:80 to 80:20.
10. An absorbent material according to claim 9, wherein the weight ratio is from 35:75 to 75:35.
11. An absorbent material according to claim 9, wherein the textile fibres have a gauge of 5-30 dtex.
12. An absorbent material according to claim 11, wherein the gauge is 10-25 dtex.
13. An absorbent material according to claim 11, wherein the gauge is 15-20 dtex.
14. An absorbent material according to claim 4, wherein the textile fibres have a gauge of 1-10 dtex.
15. An absorbent material according to claim 14, wherein the gauge is 1-4 dtex.
16. A method of producing an absorbent material that includes a mat of dry-laid cellulose fibres integrated with an air-laid non-woven gauze comprised of reinforcing textile fibres, comprising:

PCT/GB2014/050260

air-forming textile fibres with an air-doffing apparatus on a wire to form a non-woven gauze; and

directly dry-laying the cellulose fibres on the newly formed non-woven gauze of textile fibres to integrate the cellulose fibres with the non-woven gauze and form a mat wherein the cellulose fibres achieve a sufficient bonding with the textile fibres without any bonding agent.

17. A method according to claim 16, wherein the reinforcing textile fibres have a length of 10-100 mm.

18. A method according to claim 17, wherein the length is 20-80 mm.

19. A method according to claim 17, wherein the length is 32-60 mm.

20. A method according to claim 16, wherein the material contains up to 10% by weight reinforcing fibres, calculated on a total weight of the absorbent material.

21. A method according to claim 20, wherein the material contains 3-8% reinforcing fibres.

22. A method according to claim 16, wherein the reinforcing fibres are natural fibres or synthetic fibres.

23. A method according to claim 22, wherein the reinforcing fibres are cotton fibres, rayon fibres or polyester fibres.

202507366

24. A method according to claim 16, wherein the weight ratio between the cellulose fibre layer and the textile fibre layer is from 20:80 to 80:20.

25. A method according to claim 24, wherein the weight ratio is from 35:75 to 75:35.

26. A process for producing an absorbent product, comprising:
air-forming textile fibres with an air-doffing apparatus on a wire to form a non-woven gauze;
directly dry-laying the cellulose fibres on the newly formed non-woven gauze of textile fibres to integrate the cellulose fibres with the non-woven gauze and form a mat wherein the cellulose fibres achieve a sufficient bonding with the textile fibres without any bonding agent; and
including the mat in an absorbent product.

27. A process according to claim 26, wherein the integrated mat of cellulose fibres and non-woven gauze is directly incorporated in an absorbent product without intermediate defibration.

28. A process according to claim 26, wherein the integrated mat of cellulose fibres and non-woven gauze is defibred and mat-formed into an absorbent core that is then incorporated into an absorbent product.

29. An absorbent structure including cellulose fibres reinforced with textile fibres, the structure having been produced by defibrating and mat-forming an absorbent material comprising a dry-laid mat of cellulose fibres integrated with an air-laid non-woven gauze of long reinforcing textile fibres, wherein the absorbent material is obtained by directly dry-laying the cellulose fibres on the

newly formed gauze of textile fibres so that the cellulose fibres achieve a sufficient bonding with the textile fibres without any bonding agent.

30. A method of producing an absorbent structure including cellulose fibres and reinforcing textile fibres, comprising:

air-forming textile fibres with an air-doffing apparatus on a wire to form a non-woven gauze;

directly dry-laying the cellulose fibres on the newly formed non-woven gauze of textile fibres to integrate the cellulose fibres with the non-woven gauze and form a mat wherein the cellulose fibres achieve a sufficient bonding with the textile fibres without any bonding agent; and

defibrating and mat-forming the integrated mat of cellulose fibres and non-woven gauze.

31. An absorbent material according to claim 1, wherein the reinforcing textile fibres have a length of 20-80 mm.

32. A process according to claim 26, wherein the absorbent product is one of a diaper, sanitary napkin, tampon, panty protector, incontinence guard, bed protector, wound or sore dressing, and a saliva absorbent.